

4605 Woodmill Run
Apex, NC 27539

September 18, 2014

North Carolina Board of Examiners for Engineers and Surveyors
4601 Six Forks Road, Suite 310
Raleigh, North Carolina 27609

Dear NCBELS,

Thank for considering my complaints which I submitted last June. On Saturday, September 14, 2014, I received the Board's decision to do nothing on the yellow light matter.

Please entertain this question, "Does the Board understand the basic physics error introduced by the State's traffic engineers? Specifically, "Does the Board understand that $t = v/a$ describes the immutable relationship between time, velocity and acceleration according to the laws of physics? Does the Board acknowledge that its licensed professional traffic engineers, use " $t = v/2a$ " instead--a direct conflict with this immutable relationship for general traffic movements?" If the Board wants a face-to-face presentation on this, my colleagues and I have one.

David Evans told me on Tuesday that the Board declined to take action because the Board believes that the engineers are properly following *federal guidelines*. Does the Board understand that the traffic engineers are *not* following the federal guidelines?

The ITE formula is a federal guideline but to use the ITE formula, physics demands a specific value for " v " and to confine the formula's use to one type of traffic movement. Russell Thompson himself led a team in 2005 which screws up the value for " v ". All traffic engineers misapply the formula to decelerating traffic movements which results in a yellow duration short by up to around 4.5 seconds.

There are other federal guidelines, moreover *standards* which I listed in section "MUTCD Violations" which these traffic engineers do not meet either.

These engineers neither follow the standards nor the guidelines.

Mr. Evans told me, "I should direct my efforts to change the guidelines. The Board has no influence in the guidelines." It is really not a matter of changing the guidelines but a matter of understanding the existing guideline. To use the ITE formula guideline correctly, engineers have to "possess the knowledge of the mathematical and physical sciences." It boils down to this. These traffic engineers do not know physics. As a result of guessing what the formula means, they devise arbitrary implementations. These implementations vary widely from year to year, State to State, from one federal publication to the next. With the exception of Oregon, NCDOT has the worst implementation of all States.

You know me by now. I am persistent in this matter. It is easy to be persistent with utmost conviction. With a degree in physics, I know with absolute certainty what this formula does. Even the inventor of the formula has taken sides. He has taken my side, not the side of the NCDOT traffic engineers. The

NCDOT even saw the inventor's statement and have since admitted on ABC they have screwed up. But the NCDOT engineers still do nothing about it.

The Board has taken the position of inaction. That puts the Board in a precarious position. You need to be prepared to answer these questions. I will not ask you these questions because I believe I know the answer. But others are going to ask you:

1. Why does the Board refuse to meet its obligations under 89C-3(6)? That is to say, "Why does the Board not hold its engineers accountable to possess the knowledge of the mathematical and physical sciences necessary to do their jobs as required by law?"
2. Does the Board realize that without engineers' accountability to math and physics, the Board has rendered the P.E. credential meaningless? Consider an engineer who does not know that the cables and underlying arches on a suspension bridge follow a catenary equation. The bridge collapses killing everyone on it. Would the Board discipline this engineer? Yet in consideration of the faulty yellow light equation, NCBELS is allowing its engineers to continue misusing the ITE formula which has far more frequent and far-reaching consequences than a bad bridge. Why does the Board not discipline its traffic engineers?
3. Does the Board realize that the engineer's responsibility to "safeguard property" includes the millions of dollars of financial property cities and red light camera take from innocent motorists caught in engineering "dilemma zones?" Does the Board realize that it is now colludes with the red light camera companies to steal the money?
4. Does not the Board realize these same errors have nearly caused buses of school children to overturn? (The Town of Knightdale supplied this video.)

As opposed to a lawyer, I do not thrive on conflict. I do not like writing letters such as this. I am more like the Tyrannosaurus Rex on Toy Story, "I hate confrontation." But I will not shirk my duty as a human being who is in-the-know. On the phone Mr. Evans told me that he knows I go public with these things. There are reasons why I go public. Sad reasons. When government denies its responsibilities, it leaves me no choice. I have gone to ABC, CBS, FOX and NBC. Actually they have come to me. All have rallied behind me in their noble duty to keep government honest. There is also the Governor's Office who I know appoints the members of the Board. I do have a friend in a high place who would help me with that if I asked. I'd rather keep this an engineering matter. An engineering matter should be solved by engineers, not politicians. I ask you to not test my resolve.

Let me end this on a positive note. The Board of Engineers has an unprecedented opportunity here. Instead of spending your time debating whether a company can have the word "engineering" in its title, you can really change the world in something that matters to everyone from North Carolina to Australia. You can rock the planet. You can expose a fraud scheme, prevent billions of dollars from being stolen, and prevent hundreds of thousands of crashes and even deaths. All you have to do is stick to your State mandate, "We are holding our engineers accountable to the mathematical and physical sciences." I beg you, do not be afraid to let the chips fall where they may. Remember, in the end no one can deny basic physics. It will look very bad on those who do, especially on a Board of Engineers who has no excuse.

If you need a scapegoat to handle the hot potato, you can say, "The inventor of the formula has spelled out the formula's proper physics. Physics itself spells out what needs to be. Our engineers must take into the account the proper physics to safeguard everyone."

Can you imagine if you took a stand like that? You would be famous . . . in a very good way.

I repeat here--I am not interested in personally attacking traffic engineers although the reverse is not true. What do I expect from you? You can just slap their hands and say, "You must understand the physics and you must now work to resolve this." Is that too much to ask?

I ask the Board this final question. To get the ball rolling, would the Board be interested in putting on a luncheon gathering the State's traffic engineers together? With your help, Dr. Shovlin, Johnnie Hennings (P.E.) and I can present the problem and the solution to these traffic engineers. But without your help, this will go nowhere. These engineers first and foremost have an attitude problem.

You can certainly get ASCE involved. Our presentation follows an ASCE peer-reviewed paper. And please understand this, I would love to see the federal guidelines made uniform and comply with the laws of physics. But as you know, it is really *not* my job. It is the traffic engineers' job. Some States would even look at my involvement and say, "You are not a P.E. You cannot say anything." To which I retort, "Anyone can follow the math. And the formula that you are now using did not come from a P.E., but rather an astrophysicist who got a ticket running a red light where the yellow was too short. History has repeated itself.

I am at your service,

Brian Ceccarelli

P.S. By not explaining your decision, you reveal that you are not able to justify your decision, that you know you are in the wrong and that you are hiding something. The Town of Cary had already done this to me repetitively so I am familiar with the pattern. While you are not required by the Court to divulge your reasons, you are required to do so by your code of conduct (d)1. You withheld relevant and pertinent information to me, the public. I also know that as far as the Courts are concerned, non-responsiveness is worse kind of response.